

CLAIMS (original)

1. An ohmic electrode structure of a nitride semiconductor device having a nitride semiconductor, comprising:
 - 5 a first metal film formed on the nitride semiconductor, and
 - a second metal film formed on the first metal film,
 - wherein the first metal film is made of at least one material selected from the group consisting of V, Mo, Ti, Nb, W, Fe, Hf, Re, Ta, and Zr, and
 - the second metal film is made of at least one material that is different
 - 10 from that of the first metal film and selected from the group consisting of V, Mo, Ti, Nb, W, Fe, Hf, Re, Ta, Zr, Pt, and Au.
2. An electrode structure of a nitride semiconductor device according to claim 1, wherein:
 - 15 the nitride semiconductor is a semiconductor containing GaN, AlN, InN, and their mixture as main components.
3. An electrode structure of a nitride semiconductor device according to claim 1, wherein:
 - 20 a Si layer is formed between the first metal film and the nitride semiconductor.
4. An electrode structure of a nitride semiconductor device according to claim 3, wherein:
 - 25 the Si layer serves as an n-type dopant with respect to the nitride semiconductor.
5. An ohmic electrode structure of a nitride semiconductor device having a

nitride semiconductor, comprising:

a first metal film formed on the nitride semiconductor,

a second metal film formed on the first metal film, and

a third metal film formed on the second metal film,

5 wherein the first metal film is made of at least one material selected from the group consisting of V, Mo, Ti, Nb, W, Fe, Hf, Re, Ta, and Zr,

the second metal film is made of at least one material that is different from that of the first metal film and selected from the group consisting of V, Mo, Ti, Nb, W, Fe, Hf, Re, Ta, Zr, Pt, and Au, and

10 the third metal film is made of at least one material that is different from that of the second metal film and selected from the group consisting of V, Mo, Ti, Nb, W, Fe, Hf, Re, Ta, Zr, Pt, and Au.

6. An electrode structure of a nitride semiconductor device according to
15 claim 5, wherein:

the nitride semiconductor is a semiconductor containing GaN, AlN, InN, and their mixture as main components.

7. An electrode structure of a nitride semiconductor device according to
20 claim 5, wherein:

a Si layer is formed between the first metal film and the nitride semiconductor.

8. An electrode structure of a nitride semiconductor device according to
25 claim 7, wherein:

the Si layer serves as an n-type dopant with respect to the nitride semiconductor.